WHAT IS CLAIMED IS:

1. An optical waveguide path coupling structure where a first optical waveguide path including a first core layer and a second optical waveguide path including a second core layer are optically coupled, wherein;

said first optical waveguide path arranged on an optical device chip, which has a first cross section formed such that said first core layer is exposed as an oblique plane with a slight angle at an end portion and a second cross section formed in an approximately vertical direction to said first cross section at a position apart from said first cross section by a predetermined distance, and a second optical waveguide path arranged on a base substrate, which has a first cross section formed such that said second core layer is exposed as an oblique plane with a slight angle at an end portion and a second cross section formed in the approximately vertical direction to said first cross section at a position apart from said first cross section by a predetermined distance, are coupled by aligning said first cross sections and said second cross sections.

2. An optical waveguide path including a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, wherein;

a first cross section is formed with a slight angle in an optical path direction at an end portion side of said core layer on said film to expose said core layer, and a second cross section is formed having a predetermined cross angle with said first cross

section.

3. The optical waveguide path according to Claim 2, wherein said first cross section is a plane approximately perpendicular to a plane of said film.

4. The optical waveguide path according to Claim 2, wherein said first cross section is a plane forming a predetermined cross section non-perpendicular to a plane of said film.

5. An optical waveguide path comprising a film with a lower clad layer, a core layer, a thin film upper clad layer, and a side clad layer having approximately a same height as said core layer, wherein;

said core layer for alignment used as a pattern for alignment is formed on said film other than said core layer and a first cross section is formed with a slight angle to an optical path direction at an end portion side of said core layer for said alignment to expose said core layer for said alignment, and a second cross section is formed having a predetermined cross angle with said first cross section to expose an end surface of said core layer.

6. A manufacturing method of an optical waveguide path using a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, the manufacturing method comprising the steps of:

forming a first cross section with a slight angle to an optical path direction at an end portion of said film;

measuring a position of said core layer exposed at said first

cross section; and

forming a second cross section with a predetermined angle from said optical path direction of said film at a position apart from said position of said core layer by a predetermined distance.

7. A manufacturing method of an optical waveguide path using a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, the manufacturing method comprising the steps of:

forming a metal film pattern on a base substrate;

forming said film on said base substrate that includes said metal film pattern;

forming a first cross section with a slight angle to an optical path direction of said film by removing a portion of said film on said metal film pattern with ablation processing of an ultraviolet laser;

measuring a position of said core layer exposed at said first cross section; and

forming a second cross section having a predetermined angle to said first cross section with said laser ablation processing at a position on said metal film pattern apart from said position of said exposed core layer by a predetermined distance.

8. A manufacturing method of an optical waveguide path using a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, the manufacturing method comprising the steps of:

forming a metal film on a base substrate, adhering said film onto said metal film and removing a desirable portion of said film

by an ultraviolet laser ablation processing;

removing said metal film under said desirable portion of said film by etching;

forming a first cross section at an end portion of a pattern for alignment by said core layer with a slight angle to a direction of said pattern for said alignment;

measuring a position of said core layer exposed at said first cross section; and

forming a second cross section with a predetermined angle from an optical path direction of said film at a position apart from said position of said exposed core layer by a predetermined distance.

9. An optical device part with an optical waveguide path, comprising:

said optical waveguide path comprising a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, wherein;

said film is provided on an optical device chip being a major portion of said optical device part and made to be a specular surface having a slope of approximately 45 degrees on an upper portion of a light-emitting surface or a light-receiving surface of said optical device chip, and

a first cross section with a slight angle to an optical path direction is formed at an end portion side of said core layer of said film to expose said core layer.

10. The optical device part with the optical waveguide path

according to Claim 9, wherein a hole filled with resin having approximately a same refractive index as that of said core layer is formed from said specular surface having said slope approximately slanting by 45 degrees to said light-emitting surface or said light-receiving surface of said optical device chip.

11. The optical device part with the optical waveguide path according to Claim 9, wherein a metal film is formed on said specular surface having said slope approximately slanting by 45 degrees and resin is coated on said specular surface.

12. The optical device part with the optical waveguide path according to Claim 9, further comprising: a structure in which a spacer is adhered to said optical device chip and said film is formed on said spacer.

13. The optical device part with the optical waveguide path according to Claim 12, comprising: said structure in which said spacer is formed by a transparent medium and said spacer is protruded from said optical device chip.

14. The optical device part with the optical waveguide path according to Claim 9, wherein said first cross section is a plane approximately perpendicular to a plane of said optical device chip.

15. The optical device part with the optical waveguide path according to Claim 9, wherein said first cross section is a plane

with a predetermined angle non-perpendicular to a plane of said optical device chip.

16. The optical device part with the optical waveguide path according to Claim 9, wherein;

the first cross section with a slight angle to an optical path direction is formed at said end portion side of said core layer of said film to expose said core layer and a second cross section is formed having a predetermined cross angle with said first cross section.

17. An optical device part provided with an optical waveguide path comprising a film with a lower clad layer, a core layer, a thin film upper clad layer, and a side clad layer having approximately a same height as said core layer, wherein;

said film is provided on an optical device chip being a major portion of said optical device part and made to be a specular surface having a slope of approximately 45 degrees on an upper portion of a light-emitting surface or a light-receiving surface of said optical device chip, and

a core layer for alignment used as a pattern for alignment is formed on said film other than said core layer and a first cross section with a slight angle to an optical path direction is formed at an end portion side of said core layer for said alignment to expose said core layer for said alignment, and a second cross section is formed having a predetermined cross angle with said first cross section to expose an end surface of said core layer.

18. A manufacturing method of an optical device part with

an optical waveguide path using a film in which upper and lower surfaces of a core layer are multiply coated respectively by an upper clad layer and a lower clad layer, the manufacturing method comprising the steps of:

forming a polymer optical waveguide path on a semiconductor wafer in a process before separating said semiconductor wafer into optical device chips;

performing laser ablation processing to resin of said polymer optical waveguide path with an ultraviolet laser and forming a specular surface with a slope approximately slanting by 45 degrees on an upper portion of a plane being a light-emitting surface or a light-receiving surface of said optical device chip; and

forming a cross section with a slight angle to an optical path direction on an other end portion of said polymer optical waveguide path.

19. The manufacturing method of the optical device part with the optical waveguide path according to Claim 18, wherein the process for forming said polymer optical waveguide path further comprising the steps of:

forming a hole that reaches at least said core layer from said plane being said light-emitting surface or said light-receiving surface on a polymer layer after formation of said polymer layer; and

filling said hole with resin of approximately a same refractive index as that of said core layer.

20. The manufacturing method of the optical device part with

the optical waveguide path according to Claim 18, wherein the process for forming the specular surface with the slope approximately slanting by 45 degrees further comprising the steps of:

forming a metal film pattern on said upper clad layer of said polymer optical waveguide path; and

irradiating said ultraviolet laser in a direction approximately slanting by 45 degrees using a metal film pattern as a mask to perform said laser ablation processing.

21. A coupling method of an optical waveguide path that couples a first optical waveguide path comprising a first film with a lower clad layer, a core layer, a thin film upper clad layer, and a side clad layer having approximately a same height as the core layer, and a second optical waveguide path comprising a second film with a similar configuration as the first film, wherein;

said first film is provided on an optical device chip and made to be a specular surface having a slope of approximately 45 degrees on an upper portion of a light-emitting surface or a light-receiving surface of said optical device chip,

a first cross section with a slight angle to an optical path direction is formed at an end portion side of each of said core layers to expose said core layer on said first and second films, and a second cross section is formed having a predetermined cross angle with said first cross section, and

a height is made to be said same by putting said first cross section and said second cross section of said second optical waveguide path against said first cross section and said second

cross section of said first optical waveguide path and by putting surfaces of said first optical waveguide path and said second optical waveguide path against a reference plane common to both said first and said second optical waveguide paths.

22. A coupling method of an optical waveguide path that couples a first optical waveguide path comprising a first film with a lower clad layer, a core layer, a thin film upper clad layer, and a side clad layer having approximately a same height as the core layer, and a second optical waveguide path comprising a second film with a similar configuration as the first film, wherein;

said first film is provided on an optical device chip and made to be a specular surface having a slope of approximately 45 degrees on an upper portion of a light-emitting surface or a light-receiving surface of said optical device chip,

core layers for alignment used as a pattern for alignment are formed on positions corresponding with each other on said first film and said second film other than said core layer, a first cross section with a slight angle to an optical path direction is formed at an end portion side of each of said core layers for said alignment to expose said core layers for said alignment, and a second cross section is formed having a predetermined cross angle with said first cross section to expose an end surface of said core layer, and

said first cross section and said second cross section of said second optical waveguide path are put against said first cross section and said second cross section of said first optical waveguide path, and said thin film upper clad layer of said first

optical waveguide path and said core layer of said second optical waveguide path are made to contact in a thickness direction.